The Nature Museum
CHICAGO ACADEMY OF SCIENCES

AGENDA

Board of Trustees
The Chicago Academy of Sciences
January 27, 1998
NOON

1. Call to order - Mr. Voss (Noon)

2. Report of the Nominating Committee - Mr. Harvey (5 min)
   ACTION ITEM: Be it resolved that Mr. Lowell Stahl be appointed to the Board of Trustees until the next Annual Meeting of the Board.

3. Chairman's remarks - Mr. Voss (5 min)
   a. Executive Committee meeting of January 23, 1998

4. Report of the Secretary - Mr. Crampton (5 min)

   ACTION ITEM: Be it resolved that the Board of Trustees approves the minutes of the meeting of October 28, 1997 and ratifies the actions taken by the Executive Committee on December 2, 1997 as stated in the minutes circulated.

5. President's remarks - Mr. Heltne (5 min)
   a. State initiative of Museums in the Parks; CAS initiative
   b. Museums in the Park capital allocation

6. Report of the Research and Symposia Committee - Mrs. Ashcraft (10 min)

7. Report of the Finance Committee - Mr. Maier (10 min)
   a. Quarterly financials
   b. Waiver of covenant from American National Bank
   c. Draft first year budget for new museum operations

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8. Report of the Facilities and Administration Committee - Mr. Pick (10 min)
    a. Progress of museum construction
    b. Mobile museum concept

9. Report of the Education and Exhibits Committee - Mrs. Pond (20 min)
    a. Educational update
    b. Status of permanent exhibits

10. Report of the Development and Marketing Committee - Mr. Cox (20 min)
    a. Auxiliary Board - Mr. Hanslip
    b. Advisory Council - Mrs. Ashcraft
    c. Annual fund - Ms. Baniak
    d. Marketing initiative including interim programming - Ms. Baniak

11. Campaign for the 21st Century - Mrs. Notebaert (30 min)
    a. Campaign for the 21st Century - Mrs. Notebaert
        Update
        Targets
    b. Civic Leadership Committee - Mr. Plotnick
    c. Individual Gifts Committee - Mr. Williams
    d. Gala Committee - Mrs. Istock
    e. Family - response to Johnson Family Foundation challenge - Mr. Voss
        Goals and expectation
        Assignments and prospect management
        Cultivation opportunities

12. By-Laws and Legal - Mr. Healy (5 min)

13. Other Business (5 min)
    a. Upcoming events
    b. Other business

14. Executive Session

15. Adjournment (2 pm)

PRESIDENTIAL REPORT ON PROGRESS TOWARD GOALS FOR FISCAL 1998

1. Achieve the fiscal goals of the Academy in the operating and capital sectors necessary to sound financial health of the institution.
   a. Achieve results as budgeted. (5%) **Net revenues of $97,000 (excluding investment gains) through 2nd quarter against budgeted year end deficit of $182,000; with closing of North Pier budget assumptions have changed.**
   b. Achieve annual operating contributions and grants of $1,893,000. (15%) **Actual $934,000 vs budgeted $900,000.**
   c. Move campaign gifts and pledges from $4.5 million to $10 million by end of fiscal 1998. (25%) **Pledge total moved to $6.1 million, including Johnson Family Foundation Match in full, as of December 31. As of this writing, 58% of the Johnson Family Foundation Match has been met , and 12 of 26 trustees have responded to the special Trustee Challenge. Engaged in approaching State and other governmental sources for Campaign funding. Campaign Committees have had initial meetings.**

2. Complete new museum building, begin installation of exhibits, and assure coordinated, exciting opening. (15%)
   a. Working through COO achieve beneficial occupancy by end of August, 1998. **On track.**
   b. Work with COO to determine final exhibit package for Board approval, complete exhibit design, engage fabricators, begin installation by September 30, 1998. **Exhibit package approved at September meeting; exhibit design proceeding; release of fabrication contracts delayed pending adequate cash flow.**
   c. Working with COO, produce integrated business and program development plan, including staffing, income-generating programs, and docent training, for Nature Museum. **Integrated schedules in hand; draft operations budget for new museum presented today.**

3. Execute unified development and communications plan to build image, identity, and audience. (10%)
   a. Apply image, identity, and communications plan to achieve broad interest and involvement in the opening of the new museum. **New logo now on letterhead, business cards, and publications; annual report distributed October; fundraising brochure achieving great use and attention .**
   b. Implement search for corporate program sponsorship and other elements of integrated development and communications plan. **Continuing to meet with potential corporate sponsors including a potential underwrite for opening exhibit identified by Mr. Silvester.**
   c. Hold at least three friend/fundraising activities per month including activities with the Auxiliary Board and the Advisory Council. **Members' and Educators' Halloween Event, October 28; Animals Eat Auxiliary Board Event, Oct. 30; House of Blues Gospel Brunch, Nov. 16; museum model on display at Chicago Cultural Center through much of the quarter. Planning exciting list of spring and summer membership and cultivational events.** See schedule attached to the agenda for upcoming cultivation events.

4. Expand reach of Academy's Outreach, On-Line and Research programs. (10%)
   a. Expand reach of outreach and teacher training programs and develop collaborations; integrate with programming for Nature Museum. Eco-Cit and Science on the Go fully subscribed with more schools purchasing the programs with their own funds than ever before; new Science on the Go grant awarded to fund incorporation of math activities more extensively into the program. **Academy programs now serve 164 Chicago Public Schools, more than a quarter of K-8 schools. Several additional private schools have signed contracts. Additionally over 1,100 teachers are being served with programs affecting over 25,000 students.**
   b. Develop collaborations for establishing Science Scene Programs and extending their reach; integrate with programming for Nature Museum. Northwestern University contributing more resources for

TEENS; Science Scene Business Advisory Board underway. **Science Scene continues in full operation in office space at North Pier**

c. Extend advanced technology programs TEEE, DEED, and Science Power On-Line video programming into new sites and introduce into programming at the Nature Museum. **CAOS.Club providing Web-cast video broadcasting for teacher training and classroom programming reaches 642 schools distributed in all 7 educational hubs and 54 counties around Illinois; 15 new TEEE schools about to begin training; Lake Michigan cd-rom, produced under a grant to the Academy, being duplicated by US-EPA Region V. Additional educational collaborations being explored.**

d. Explore development of resources for ICASL and other research programs, particularly 'Nature, Polis, and Ethics' sponsored jointly with the Hastings Center; explore options for programming in the Nature Museum including major scientific symposium for opening year. ICASL receives $100,000 for US Biotechnology survey to parallel European and Japanese surveys; NASA contract renewed; excellent international symposia with many new contacts, especially Russia and Togo, to celebrate 40th anniversary of Sputnik. **Discussions continue with Frans de Waal regarding symposium on large brained mammals for inaugural year of new museum. ICASL report on science literacy about to be submitted to Congress; exciting spring lecture series in place; collaboration with Hastings Center, Chicago Wilderness, Chicago Center for Religion and Science continue; publication planned for Nature Polis and Ethics project in spring.**

e. Develop Chicago Wilderness and Chicago Millennium collaborations; explore options for programming in the Nature Museum. **Grants to serve as web site manager for Chicago Wilderness; CW research grant to explore how to relate various ethnic groups to biodiversity and conservation topics with grants from Straughan Donnelley and US-EPA; Millennium celebration coincides with opening year of new museum; collaboration with OpenLands and Mobil Oil on education programs for Medewin National Prairie and I&M Canal.**

5. Attract five new trustees who leaders in the business or philanthropic community. (10%) **Two appointed at October Board meeting; one nominee presented at today's meeting.**

THE CHICAGO ACADEMY OF SCIENCES

REPORT AND COMMENTS ON FINANCIAL STATEMENTS

SIX MONTHS ENDED DECEMBER 31, 1997

- UNRESTRICTED OPERATIONS - YEAR TO DATE

Total Revenues	$ 2,583,000
Total Expenses	2,375,000
Net Revenues	$ 208,000

Net investment gains which are unbudgeted contributed $111,000 to the above results. Excluding such gains, operations would result in a modest surplus of $97,000.

Revenues are holding up well in relation to plan, and expenses overall are less than planned for our first six months. The principal revenue sources are on plan. Admissions and gift shop sales are, of course, below plan and will remain unchanged after December, as we have shut down the North Pier operations.

By any measure, therefore, our operations are doing well for six months and are ahead of plan.

- EXPENSES

Expenses are on track at the halfway point in the fiscal year, as shown by the following summary (dollars in thousands):

Department	Total 1998 Budget	Spent to Date Amount	Spent to Date %
Education	$ 1,230	632	51%
Exhibits and Operations	387	193	50
Museum Programs	318	153	48
ICASL	926	412	44
Collections and Research	123	55	44
Gift Shop	80	38	47
Facilities	710	322	45
Development & Marketing	1,155	525	45
Institutional Support	245	79	32
Administration	553	250	45
Total Expenses	$ 5,727	2,659	46%

Some expense categories are planned to increase slightly during the second half of the year (e.g. Institutional support for interest expense). Conversely, we will continue to save significant costs, notably rent, at North Pier. Once we complete our assessment of the gift shop inventory, we expect to charge most of it to operations during the next quarter.

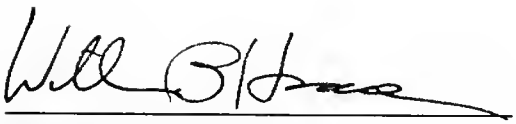
- NEW MUSEUM REVENUES

  Capital campaign revenues for the six months are at 87% of budget.

  Reimbursement revenues from the Chicago Park District are less than planned, merely because we have incurred construction costs at a slower rate than planned. This will get caught up by the year's end.

- CASH FLOWS AND INVESTMENTS

  These have generally been slightly better than planned, and our investment portfolio is over $2,100,000 at December 31, 1997, which is modestly better than expected.



WILLIAM B. HAASE
January 21, 1998

THE CHICAGO ACADEMY OF SCIENCES

CAPITAL PROJECT - STATUS REPORT

SUMMARY OF PROJECTED EXPENDITURES

AS OF DECEMBER 31, 1997

(Dollars in millions)

ITEM	PROJECTED TOTAL	INCURRED TO 12/31/97	ADDITIONAL TO BE INCURRED
BUILDING:			
Construction	$ 13.0	3.7	9.3
Professional Fees	1.2	0.8	0.4
Environmental	0.1	0.1	.0
	14.3	4.6	9.7
EXHIBITS:			
Master Plan	0.2	0.2	.0
Lee Skolnick etal	1.2	0.9	0.3
Fabrication	6.4	0.2	6.2
Internal Personnel	0.2	.0	0.2
	8.0	1.3	6.7
FURNITURE & FITTINGS:	.8	.0	0.8
SUBTOTAL	23.1	5.9	17.2
ENDOWMENT:	1.0	0.7	0.3
CAMPAIGN EXPENSES:			
Kemper Lesnick	1.2	0.6	0.6
Alford Group	0.7	0.5	0.2
Other & Temp. Exhibit	0.6	0.1	0.5
Fund Raising Program	0.5	.0	0.5
Total	3.0	1.2	1.8
CONTINGENCY:	0.3	.0	0.3
TOTAL PROJECT COST:	$ 27.4	7.8	19.6
ADDITIONAL CAMPAIGN NEEDS:			
3 Yrs Annual Operating Contributions (1998/99/2000)	2.0	0	2.0
5 Yrs Bond Principal Repayments	2.4	0	2.4
TOTAL CAMPAIGN TARGET	$ 31.8	7.8	24.0

WBH
1/21/98

THE CHICAGO ACADEMY OF SCIENCES

STATEMENT OF CHANGES IN NET ASSETS

SIX MONTHS ENDED DECEMBER 31, 1997

(Dollars in Thousands)

	UNRESTRICTED	TEMPORARILY RESTRICTED	PERMANENTLY RESTRICTED	COMBINED TOTAL
REVENUES:				
A. PUBLIC SUPPORT - OPERATIONS:				
Taxes - Chicago Park District	$ 636			636
State Support	22			22
Contributions	315			315
Memberships	14			14
Museum Program Grants	43			43
Net Assets Released From Restrictions	61	<61>		
Total Public Support	1,091	<61>		1,030
B. PUBLIC SUPPORT - NEW MUSEUM CONSTRUCTION:				
Capital Campaign		1,396		1,396
Reimbursements - Chicago Park District Bond Fund	1,093			1,093
Net Assets Released From Restrictions	1,396	<1,396>		--
	2,489	--		2,489
C. EARNED INCOME:				
Education Contracts and Grants	576			576
ICASL Research Contracts	403			403
Gift Shop Sales	30			30
Admissions	11			11
Interim Facility Reimbursements	187			187
Dividends and Interest	42			42
Investment Gains Realized	228			228
Unrealized Investment Gains	<117>			<117>
Other	7			7
Net Assets Released From Restrictions	125	<125>		--
	1,492	<125>		1,367
TOTAL REVENUES	5,072	<186>		4,886
TOTAL EXPENSES	2,659			2,659
NET CHANGE IN NET ASSETS	2,413	<186>	--	2,227
NET ASSETS - BEGINNING OF YEAR	6,451	221	610	7,282
NET ASSETS - END OF MONTH	$ 8,864	35	610	9,509

THE CHICAGO ACADEMY OF SCIENCES
STATEMENT OF CHANGES IN NET ASSETS
MONTH OF DECEMBER, 1997

(Dollars in Thousands)

	UNRESTRICTED	TEMPORARILY RESTRICTED	PERMANENTLY RESTRICTED	COMBINED TOTAL
REVENUES:				
A. PUBLIC SUPPORT - OPERATIONS:				
Taxes - Chicago Park District	$ 136			136
State Support	--			--
Contributions	144			144
Memberships	2			2
Museum Program Grants	17			17
Net Assets Released From Restrictions	10	< 10>		--
Total Public Support	309	< 10>	--	299
B. PUBLIC SUPPORT - NEW MUSEUM CONSTRUCTION:				
Capital Campaign	--	830		830
Reimbursements - Chicago Park District Bond Fund	624	--		624
Net Assets Released from Restrictions	830	<830>		--
	1,454	--		1,454
C. EARNED INCOME:				
ICASL Research Contracts	131			131
Education Contracts and Fees	96			96
Gift Shop Sales	11			11
Admissions	--			--
Interim Facility Reimbursements	31			31
Dividends and Interest	7			7
Investment Gains Realized	1			1
Unrealized Investments Gains	32			32
Other	--			--
Net Assets Released from Restrictions	--	--		--
Total Earned Income	309	--		309
TOTAL REVENUES	2,072	< 10>		2,062
TOTAL EXPENSES	536			536
NET CHANGE IN NET ASSETS	1,536	< 10>		1,526
NET ASSETS - BEGINNING OF MONTH	7,328	45	610	7,983
NET ASSETS - END OF MONTH	$ 8,864	35	610	9,509

THE CHICAGO ACADEMY OF SCIENCES
SUMMARY OF BUDGETED AND ACTUAL REVENUES
SIX MONTHS ENDED DECEMBER 31, 1997

(Dollars in Thousands)

	CURRENT MONTH		YEAR TO DATE	
	BUDGET	ACTUAL	BUDGET	ACTUAL
A. PUBLIC SUPPORT - OPERATIONS:				
Taxes - Chicago Park District	$ 125	136	625	636
State Support	--		20	22
Contributions	60	144	240	315
Memberships	3	2	15	14
Museum Program Grants	15	17	80	43
Total	203	299	980	1,030
B. PUBLIC SUPPORT - NEW MUSEUM CONSTRUCTION:				
Capital Campaign	1,000	830	1,600	1,396
Reimbursements - Chicago Park District Bond Fund	800	624	1,400	1,093
Total	1,800	1,454	3,000	2,489
C. EARNED INCOME:				
Education Contracts and Grants	120	96	580	576
ICASL Research Contracts	100	131	500	403
Gift Shop Sales	8	11	50	30
Admissions	3	--	20	11
Interim Facility Reimbursements	32	31	187	187
Dividends and Interest	7	7	32	42
Investment Gains Realized	--	1	--	228
Unrealized Investment Gains	--	32	--	<117>
Other	3		11	7
Total	273	309	1,380	1,367
TOTAL REVENUES:	2,276	2,062	5,360	4,886
TOTAL EXPENSES:	533	536	2,801	2,659
NET CHANGE IN NET ASSETS	$ 1,743	1,526	2,559	2,227

THE CHICAGO ACADEMY OF SCIENCES

STATEMENT OF EXPENSES

SIX MONTHS ENDED DECEMBER 31, 1997

(Dollars in Thousands)

	CURRENT MONTH		YEAR TO DATE	
	BUDGET	ACTUAL	BUDGET	ACTUAL
A. PROGRAM SERVICES:				
Education Programs	$ 115	101	615	632
Exhibits and Museum Operations	33	23	193	193
Museum Programs	29	21	159	153
ICASL Research Programs	75	128	460	412
Collections and Applied Research	9	13	65	55
Gift Shop	7	14	44	38
Facilities	60	41	355	322
Total Program	328	341	1,891	1,805
B. MANAGEMENT AND GENERAL SERVICES:				
Development and Marketing	135	138	530	525
Institutional Support	20	20	100	79
Administration	50	37	280	250
Total Management and General	205	195	910	854
TOTAL EXPENSES	$ 533	536	2,801	2,659

THE CHICAGO ACADEMY OF SCIENCES
STATEMENT OF FINANCIAL CONDITION
DECEMBER AND NOVEMBER, 1997

(Dollars in Thousands)

	DEC. 97	NOV. 97
ASSETS		
Cash	$ 1,446	1,062
Assets On Deposit With Trustee	3,073	3,780
Accounts Receivable:		
Taxes - Chicago Park District	1,122	1,037
Reimbursements - Chicago Park District	766	143
ICASL Contracts	93	22
Education Grants, Contracts and Others	108	173
Pledges, Net of Discounts, Etc.	2,413	2,045
Endowment Pledges, Net of Discount	610	610
Total Accounts Receivable	5,112	4,030
Investments At Fair Market Value	2,117	2,082
Gift Shop Inventory	31	43
Prepaid Expenses	558	640
Capitalized Costs of Property and Equipment Net Accumulated Depreciation and Amortization:		
Buildings and Land	1,840	1,847
Leasehold Improvements	30	30
Exhibits	--	--
Equipment and Furniture	229	235
New Museum - Costs in Process	4,951	4,392
Total Property and Equipment	7,050	6,508
TOTAL ASSETS	$ 19,387	17,886
LIABILITIES AND NET ASSETS LIABILITIES:		
Note Payable - Line of Credit	$ --	--
Bonds Payable	9,335	9,335
Accounts Payable and Accrued Liabilites	315	307
Deferred Reimbursements - Facility Costs	188	219
Deferred Compensation	40	42
Total Liabilites	9,878	9,903
NET ASSETS:		
Unrestricted	8,864	7,328
Temporarily Restricted	35	45
Permanently Restricted	610	610
Total Net Assets	9,509	7,983
TOTAL LIABILITIES AND NET ASSETS	$ 19,387	17,886

CHICAGO ACADEMY OF SCIENCES
General Operating Support Financial Report
Fiscal Year 1998
(7/1/97-1/23/98)

Donor Category	FY 1998 Goals	Gifts/Pledges Received	Cash Collected
Individuals (Includes Academy Council, Auxiliary Board, Civic Leadership Committee, and Staff Members)	$100,000	$37,163	$35,845
Trustees/VIPs (Includes Former Trustees, Honorary Trustees, and Scientific Governors)	$60,000	$36,361	$30,611
Foundations*	$230,000	$177,350	$177,350
Corporations**	$90,000	$72,747	$51,322
TOTAL GIFTS	**$480,000**	**$323, 621**	**$295,128**

***Foundation Gifts:**

Aileen S. Andrew Foundation	$2,500
Buchanan Family Foundation	$15,000
Butler Family Foundation	$2,500
A. & J. Cadkin Foundation	$500
Chicago Community Trust	$45,000
Hamill Family Foundation	$100
JCCC Foundation	$5,000
Lumpkin Family Foundation	$5,000
MacArthur Foundation	$50,000
McCormick Foundation	$5,000
Oppenheimer Family Foundation	$2,000
Albert Pick, Jr. Fund	$3,500
Polk Bros. Foundation	$45,000
Dr. Scholl	$5,000
Anonymous	$1,000
Winona Corporation	$5,000

****Corporation Gifts:**

360° Communications	$2,000
Abbott Laboratories Fund	$15,000†
Anonymous	$5,000
Aveda	$2,000
William Blair & Co.	$2,500
Fel-Pro Mecklenburger	$2,500
The Gerber Companies Foundation	$10,000
Kemper Lesnik Communications	$5,000
The Northern Trust Company	$3,500
Salon Systems	$1,500
Subaru of America, Inc.	$7,000†
Waste Management, Inc.	$8,000
WGN-TV	$5,000

† designates a pledge; $3,500 of Subaru's total remains a pledge

CHICAGO ACADEMY OF SCIENCES

$30 MILLION PROJECT $20 MILLION CAMPAIGN GOAL

January 23, 1998

CAMPAIGN EXPENDITURES BY PURPOSE

	GOAL		AMOUNT COMMITTED	AMOUNT RECEIVED *	% OF GOAL COMMITTED	REMAINING TO RAISE
New Museum Project	$27,000,000		$15,066,845	$3,925,210	56%	$11,933,155
Endowment *	$1,000,000		$750,000	$0	75%	$250,000
Annual Fund (FY98 - FY2000)	$2,000,000		$323,621	$295,128	16%	$1,676,379
Total	**$30,000,000**		**$16,140,466**	**$4,220,338**	**54%**	**$13,859,534**

CAMPAIGN REVENUES BY SOURCE

	GOAL	NUMBER OF GIFTS	AMOUNT COMMITTED	AMOUNT RECEIVED *	% OF GOAL COMMITTED	REMAINING TO RAISE
Chicago Park District Bonds	$10,000,000	1	$10,000,000	$1,505,000	100%	$0
Academy Family ^ ~	$2,000,000	31	$1,395,591	$378,469	70%	$604,409
Other Individuals	$3,000,000	15	$557,135	$457,028	19%	$2,442,865
Corporations & Their Foundations	$4,500,000	9	$1,542,000	$542,000	34%	$2,958,000
Foundations *	$5,500,000	12	$2,092,714	$1,042,713	38%	$3,407,286
Government (non-CPD)	$3,000,000	2	$229,405	$0	8%	$2,770,595
Annual Fund (FY98 - FY2000)	$2,000,000	NA	$323,621	$295,128	16%	$1,676,379
Total	**$30,000,000**	**70**	**$16,140,466**	**$4,220,338**	**54%**	**$13,859,534**

^ The Academy Family is defined here as Current, Former, and Honorary Trustees; Scientific Governors; Auxiliary Board; Academy Council; and CAS staff.

~ $400,000 pledge of challenge gift from the C. Paul Johnson Charitable Family Foundation included in full.

* The Chicago Community Trust has established a $750,000 endowment which they will manage. The interest generated by this endowment will be contributed to the Academy on an annual basis after five years.

WIM
WM BLAIR INVESTMENT MANAGEMENT
PORTVUE - CHIACA.LIX
ACNUM: 145-17402-1-9

PORTFOLIO VALUATION FOR
CHICAGO ACADEMY OF SCIENCES

AS OF DATE: December 31, 1997

DOW JONES INDUSTRIAL AVG	7908.25
STANDARD & POORS 500	970.43

SECURITY DESCRIPTION			TOTAL COST	COST/ SHARE	12/31 PRICE	CURRENT VALUE	% VALUE	DIV/INT PER SHR	ANNUAL INCOME	CURR %YLD	YTM/ PE
CASH & CASH EQUIVALENTS											
CASH & SHORT TERM RESERVES											
CASH			142			142		5.02	7	5.02	
SHORT TERM INVESTMENTS-TAXABLE			642,894			642,894	30.4	4.78	30,730	4.78	
CASH & SHORT TERM RESERVES		TOTAL	643,036			643,036	30.4		30,737	4.78	
CASH & CASH EQUIVALENTS		TOTAL	643,036			643,036	30.4		30,737	4.78	
FIXED INCOME SECURITIES											
GOVERNMENT OBLIGATIONS											
U S TREASURIES											
50,000 U S TREASURY NOTES	8.125% 02/15/98		50,274	100.55	100.27	50,133	2.4	8.13	4,063	8.10	5.8
150,000 U S TREASURY NOTES	7.875% 08/15/01		157,292	104.86	106.91	160,359	7.6	7.88	11,813	7.37	5.7
100,000 U S TREASURY NOTES	6.625% 03/31/02		102,563	102.56	103.23	103,234	4.9	6.63	6,625	6.42	5.8
150,000 U S TREASURY NOTES	7.250% 05/15/04		154,784	103.19	107.92	161,883	7.6	7.25	10,875	6.72	5.7
U S TREASURIES		TOTAL	464,913			475,609	22.5		33,375	7.02	
FIXED INCOME SECURITIES		TOTAL	464,913			475,609	22.5		33,375	7.02	
EQUITIES											
COMMON STOCKS & CONV. SECURITIES											
BANKS											
500 STATE STREET CORP			7,344	14.69	58.19	29,094	1.4	0.48	240	0.82	23.8

WIM
WM BLAIR INVESTMENT MANAGEMENT
PORTVUE - CHIACA.LIX
ACNUM: 145-17402-1-9

PORTFOLIO VALUATION FOR
CHICAGO ACADEMY OF SCIENCES

AS OF DATE: December 31, 1997

DOW JONES INDUSTRIAL AVG	7908.25
STANDARD & POORS 500	970.43

	SECURITY DESCRIPTION	TOTAL COST	COST/ SHARE	12/31 PRICE	CURRENT VALUE	% VALUE	DIV/INT PER SHR	ANNUAL INCOME	CURR %YLD	YTM/ PE
	INSURANCE									
1,400	FEDERAL HOME LOAN MTG CORP	29,442	21.03	41.94	58,713	2.8	0.40	560	0.95	23.0
	OTHER FINANCIAL									
1,400	CREDIT ACCEPT CORP MI	18,365	13.12	7.75	10,850	0.5				45.6
300	HOUSEHOLD INTERNATIONAL CORP	13,784	45.95	127.63	38,288	1.8	1.68	504	1.32	20.9
1,350	MBNA CORP	13,216	9.79	27.31	36,872	1.7	0.32	432	1.17	25.3
	OTHER FINANCIAL TOTAL	45,365			86,009	4.1		936	1.09	
	GENERAL/SPECIAL MERCHANDISING									
700	HOME DEPOT INC	21,873	31.25	58.88	41,213	1.9	0.20	140	0.34	39.8
1,300	STAPLES INC	11,700	9.00	27.75	36,075	1.7				41.4
	GENERAL/SPECIAL MERCHANDISING TOTAL	33,573			77,288	3.7		140	0.18	
	DISTRIBUTION									
800	CARDINAL HEALTH INC	18,009	22.51	75.13	60,100	2.8	0.10	80	0.13	42.7
300	MSC INDUSTRIAL DIRECT CO. INC	12,045	40.15	42.00	12,600	0.6				39.6
	DISTRIBUTION TOTAL	30,054			72,700	3.4		80	0.11	
	SERVICE									
1,299	CENDANT CORPORATION	18,750	14.43	34.38	44,653	2.1				
900	CINTAS CORP	15,806	17.56	39.00	35,100	1.7	0.15	135	0.38	37.1
	SERVICE TOTAL	34,556			79,753	3.8		135	0.17	
	HEALTH CARE SERVICES									
1,700	HEALTHSOUTH CORP	17,238	10.14	27.75	47,175	2.2				32.3
	MEDICAL PRODUCTS									
1,000	MEDTRONIC INC	32,784	32.78	52.50	52,500	2.5	0.22	220	0.42	43.8

JAN-15 98 10:23 FROM:WILLIAM BLAIR 312-236-8654 TO:773 549 5199 PAGE:03

WIM
WM BLAIR INVESTMENT MANAGEMENT
PORTVUE - CHIACA.LIX
ACNUM: 145-17402-1-9

PORTFOLIO VALUATION FOR
CHICAGO ACADEMY OF SCIENCES

AS OF DATE: December 31, 1997

DOW JONES INDUSTRIAL AVG	7908.25
STANDARD & POORS 500	970.43

	SECURITY DESCRIPTION		TOTAL COST	COST/ SHARE	12/31 PRICE	CURRENT VALUE	% VALUE	DIV/INT PER SHR	ANNUAL INCOME	CURR %YLD	YTM/ PE
	PHARMACEUTICALS										
400	ELAN PLC ADR		7,036	17.59	51.19	20,475	1.0				(DEF)
	OFFICE PRODUCTS										
1,300	VIKING OFFICE PRODUCTS		28,859	22.20	21.81	28,356	1.3				26.3
	TELECOMMUNICATIONS										
1,000	AIR TOUCH COMMUNICATIONS		23,930	23.93	41.56	41,563	2.0				67.0
	DATABASE BUSINESS SERVICES										
900	ACXIOM CORP		15,750	17.50	19.25	17,325	0.8				37.0
1,200	COGNIZANT CORP		40,912	34.09	44.63	53,550	2.5	0.12	144	0.27	25.9
	DATABASE BUSINESS SERVICES	TOTAL	56,661			70,875	3.3		144	0.20	
	TRANSACTION PROCESSING										
700	AUTOMATIC DATA PROCESSING		20,036	28.62	61.38	42,963	2.0	0.53	371	0.86	34.1
700	BISYS GROUP INC		13,650	19.50	33.25	23,275	1.1				25.2
400	CATALINA MARKETING CORP		9,810	24.53	46.25	18,500	0.9				33.0
1,000	CONCORD EFS INC		6,259	6.26	24.88	24,875	1.2				40.8
1,700	FIRST DATA CORP		44,109	25.95	29.25	49,725	2.3	0.08	136	0.27	19.2
400	REUTERS HOLDING PLC ADR		16,159	40.40	66.25	26,500	1.3	1.24	497	1.88	21.7
	TRANSACTION PROCESSING	TOTAL	110,023			185,838	8.8		1,004	0.54	
	SOFTWARE AND SYSTEM SERVICES										
400	AMERICAN MANAGEMENT SYSTEMS		8,588	21.47	19.50	7,800	0.4				102.6
700	SHARED MEDICAL SYSTEMS CORP		27,062	38.66	66.00	46,200	2.2	0.84	588	1.27	28.8
	SOFTWARE AND SYSTEM SERVICES	TOTAL	35,649			54,000	2.6		588	1.09	
	ELECTRONICS/INSTRUMENTS										
300	LINEAR TECHNOLOGY CORP		9,338	31.13	57.63	17,288	0.8	0.24	72	0.42	31.7
1,875	MOLEX INC CL A		38,400	20.48	28.75	53,906	2.5	0.06	113	0.21	27.1
	ELECTRONICS/INSTRUMENTS	TOTAL	47,738			71,194	3.4		185	0.26	

JAN-15 98 10:24 FROM:WILLIAM BLAIR 312-236-8654 TO:773 549 5199 PAGE:04

WIK
WM BLAIR INVESTMENT MANAGEMENT
PORTVUE - CHIACA.LIX
ACNUM: 145-17402-1-9

PORTFOLIO VALUATION FOR
CHICAGO ACADEMY OF SCIENCES

AS OF DATE: December 31, 1997

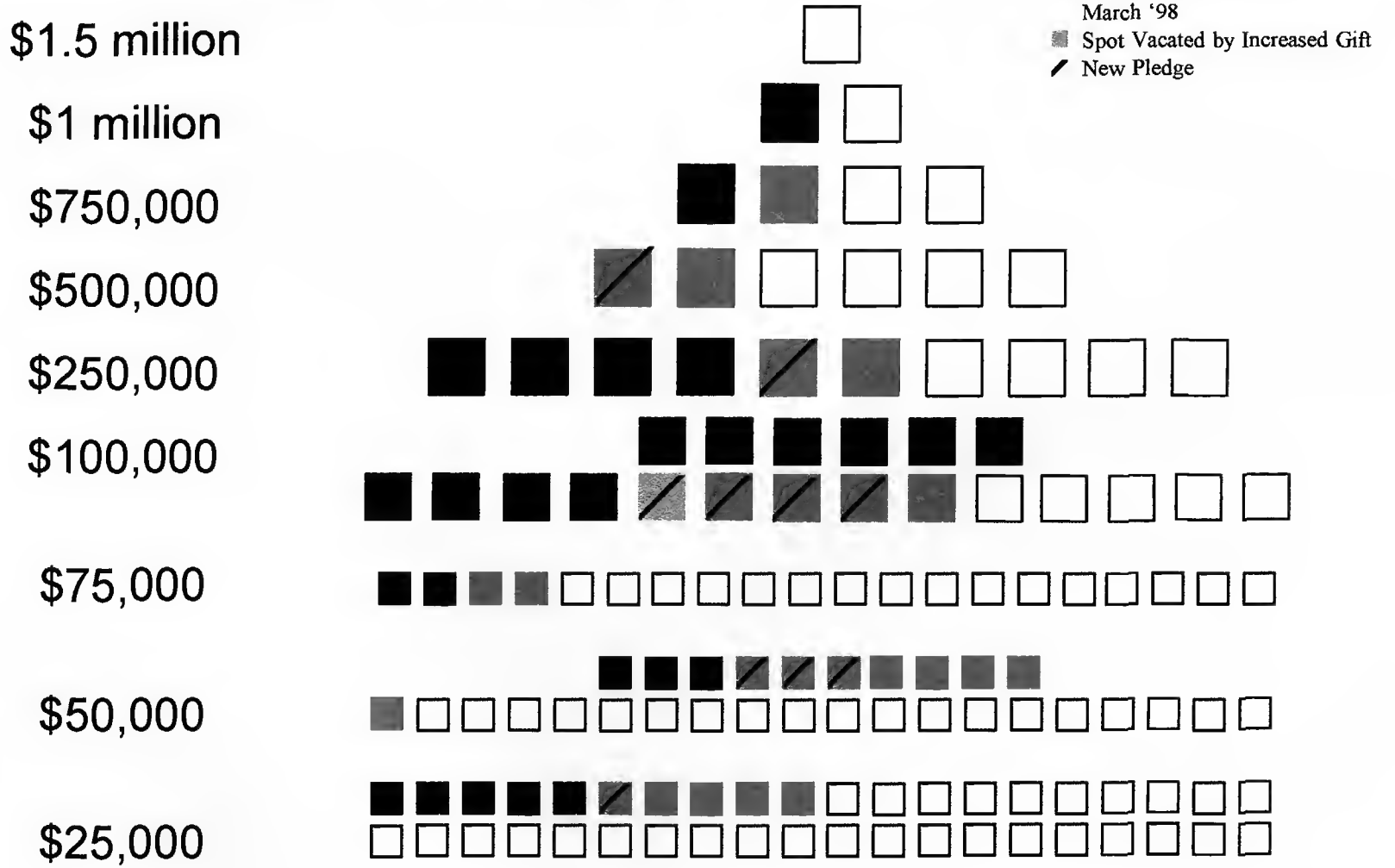
DOW JONES INDUSTRIAL AVG	7908.25
STANDARD & POORS 500	970.43

SECURITY DESCRIPTION		TOTAL COST	COST/ SHARE	12/31 PRICE	CURRENT VALUE	% VALUE	DIV/INT PER SHR	ANNUAL INCOME	CURR %YLD	YTM/ PE
CHEMICALS										
900 M A HANNA CO		14,733	16.37	25.25	22,725	1.1	0.45	405	1.78	17.9
COMMON STOCKS & CONV. SECURITIES	TOTAL	554,984			998,256	47.2		4,637	0.46	
EQUITIES	TOTAL	554,984			998,256	47.2		4,637	0.46	
TOTAL PORTFOLIO		$ 1,662,933			$ 2,116,901	100.0		$ 68,749	3.25	
NET ACCRUED INTEREST AND DIVIDENDS					9,717					
TOTAL HOLDINGS WITH ACCRUED INCOME					2,126,618					

JAN-15 98 10:24 FROM:WILLIAM BLAIR 312-236-8654 TO:773 549 5199 PAGE:05

CHICAGO ACADEMY OF SCIENCES

2 Months from Now



January 27, 1998

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CHICAGO ACADEMY OF SCIENCES

Progress to Campaign Goal

* ***Goals***:
  - $30 Million Project
  - $20 Million Campaign Goal

* full amount of C. Paul Johnson Family Charitable Foundation challenge gift and Chicago Park District funding included in this total

Chicago Academy of Sciences

Progress to Date
Academy Family $2 million "Give Goal"
Trustee $2.5 million "Get Goal"

January 27, 1998

Academy Family $2 million "Give Goal"

Amount Contributed: $1,395,591
This figure includes the C. Paul Johnson Family Foundation challenge gift of $400,000 in full.
70% of Goal Complete

Trustee $2.5 million "Get Goal"

Amount Contributed: $1,385,000
55% of Goal Complete

Gifts counted toward the "Get Goal":

Donor	Amount	Trustees who played a key role
Buchanan Family Foundation	100,000	Rick Phillips
Commonwealth Edison	75,000	Ben Lenhardt
		Peggy Notebaert
Arie and Ida Crown Memorial	20,000	Peggy Notebaert
First Chicago NBD Corp.	100,000	William Elliott
		Judy Istock
		Ben Lenhardt
Helen M. Galvin Trust	25,000	Peggy Notebaert
Kemper Educational and Charitable Fund	100,000	Daggett Harvey
Mr. and Mrs. Frederick Krehbiel	100,000	Laura Sudler
Louis R. Lurie Foundation	100,000	David Voss
Robert R. McCormick Tribune Foundation	250,000	Daggett Harvey
		Peter Walker
Molex Incorporated	200,000	Laura Sudler
Motorola Foundation	50,000	Peggy Notebaert
Prince Charitable Trusts	250,000	Daggett Harvey
		Richard Williams
Quaker Oats Company	15,000	Jan Relford

DRAFT

January 27, 1998

FIELD(name)
FIELD(address 1)
FIELD(address 2)
FIELD(city), FIELD(state) FIELD(zip)

Dear FIELD(salutation):

Thank you for remaining a valued member of the Academy during this exciting time of growth and transition! I am writing to follow up on last month's letter detailing the December 31 closing of our interim museum location at North Pier. In that letter, we promised to let you know of upcoming interim programming for our members. We have a great line-up in store for you in the coming months!

Upcoming events include:

- ***Spring Lecture Series: Cutting Edge Technologies***
- ***Live Science Demonstration at the Chicago Auto Show***
- ***Bald Eagles of the Mississippi Field Trip***
- ***Behind-the-Scenes Collections Tours***
- ***Spring Planting Party***
- ***Summer Camps***

As you can see, we have a host of interesting and fun activities in which you and your family can participate. Please see the attached Spring 1998 calendar for specific details on these and other upcoming Academy programs. We'll keep you posted on additional calendar items as they become available.

Once again, thank you for your ongoing support of the Academy, which is greatly appreciated. If you have any questions or comments on the membership program, please feel free to contact me at (773) 549-0606, ext. 2057.

Sincerely,

Amy C. Joyce
Membership Coordinator

CHICAGO ACADEMY OF SCIENCES
1998 SPRING CALENDAR OF EVENTS

Live Science Demonstration at the Chicago Auto Show
Tuesday, February 10, 8 p.m.
Learn the how's and why's of common chemical reactions from Academy personnel at the Chicago Auto Show's Subaru booth. Join Kaye Hood and Rafael Rosa, hosts of the Academy's Internet show, CAoS Club, for a live presentation entitled, **Fizz, Bang Squish: The Mystery of Chemical Reactions.** You'll even have an opportunity to create your own chemical reaction! For details, please call (773) 549-0606, ext. 2014.

Cutting Edge Technologies
Tuesdays: February 10, March 10, April 21, May 12, June 16
Mark your calendar for our spring lecture series hosted by the Academy's International Center for the Advancement of Scientific Literacy (ICASL). This year's lectures focus on new developments in science --- from laser fusion to gene therapy to NASA's space station project. The first lecture is scheduled for February 10 and will focus on laser fusion research now being conducted at Lawrence Livermore National Laboratory. The kind of stuff you hear about on the news! Held on Tuesday evenings at the University Club of Chicago, each lecture is preceded by registration and a social hour beginning at 5 p.m. Ages: High school age and older. For more information or to register, please call (773) 549-0606, ext. 2067.

Bald Eagles of the Mississippi: A collaborative trip with Lincoln Park Zoo and Chicago Audubon Society
Saturday, February 21, 6 a.m. - 6 p.m.
Join Alan Anderson of the Audubon Society on our popular annual trip to the Savanna Army Depot, a wintering spot for hundreds of bald eagles. A motor coach departs from the Lincoln Park Zoo parking lot at 6 a.m. The group leaves early to allow for five full hours of bird watching. Please dress warmly and bring a sack lunch. (A morning snack will be provided.) Ages: 15 and older. Fee: Lincoln Park Zoo, Academy and Chicago Audubon Society members, $43; non-members, $54. Registration is required. To register, please call (773) 549-0606, ext. 3059.

Members' Collections Tours
Sunday, March 22, 1-4 p.m.
Members, please join us for an exclusive, behind-the-scenes tour of the Academy's collections on Sunday, March 22 from 1-4 p.m. Get a close-up look at some of the region's threatened, endangered and already extinct species and learn why these specimens are so important to the Academy's mission. Plus, get the inside scoop on the new museum's Butterfly Haven from butterfly expert Doug Taron. For further details or to register, please call (773) 549-0606, ext. 2057.

Greenery Sale
Saturday, May 16, 10 a.m. - 3 p.m.
Join the Academy Council on Saturday, May 16, for their spring greenery sale at the new museum site! Beautify your yard and support a good cause at the same time. Flats of geraniums, impatiens, marigolds and other spring flowers will be available to purchase in advance and on the day of the event. Watch your mail for order forms and further details on what promises to be a fun event for the whole family.

(OVER)

ReptileFest 1998
Saturday & Sunday, May 2-3, 10 a.m. - 6 p.m. (both days)
Northeastern Illinois University - Alumni Hall
Academy members receive a discount at the ***Chicago Herpetological Society's*** **5th annual Live Reptile and Amphibian Show.** Take a photo with a reptile, pet a friendly alligator, and attend children's Pet and Learn Sessions. Fee: Academy members, $4 adults, $2 children 12 and under; nonmembers, $5 adults, $3 children. For more information, please call the Chicago Herpetological Society's message line at (773) 281-1800.

The Spring Awakening: Amphibians
Saturday, May 9, 9 a.m. - 11:30 a.m.
Join Mary Pryzdia from the Field Museum's Environmental Conservation Programs Department for a unique morning program focusing on the diversity of local amphibian and reptile species. Enjoy an introductory talk followed by an area field survey in the Calumet region. A detailed map of the exact meeting location will be mailed with your confirmation. Participants provide their own transportation. Ages: 13 and up; under 18 must be accompanied by an adult. Fee: Academy members and Field Museum members, $15; nonmembers, $18. Pre-registration is required. To register with a credit card, call the Field Museum at (312) 322-8854, Monday through Friday, 8:30 a.m. to 4:30 p.m.

Spring Planting Party
Saturday, June 6, 9 a.m. - 3 p.m. (rain date Sunday, June 7)
Attention members! Looking for a fun way to get back to nature? Join us at the new museum site for a special members-only Spring Planting Party on Saturday, June 6 from 9 a.m. to 3 p.m. Get down and dirty with landscape architect Carol Yetkin, the talent behind the new Nature Museum's landscape restoration project. Mark your calendars and watch your mail for details.

Prairie Powerhouse!
Saturday, June 20, 9 a.m. - 3 p.m.
Join us for a collaborative trip with the Field Museum at the Fermi National Accelerator Laboratory! Get a close-up tour of the particle accelerator facilities and visit the prairie restoration site, which encompasses over 350 acres of native plants and wildflowers and supports Fermi's resident Bison herd. Participants will meet at the Field Museum. Ages: 15 and over. Fee: Academy and Field Museum members, $20; nonmembers, $25. Pre-registration is required. To register, call (773) 549-0606, ext. 3059.

Summer Camps in Lincoln Park!
It's not too early to start planning your child's summer vacation! Join the Academy's popular Nature Camps for unbeatable outdoor adventures. Camps for 5- to 8-year-olds take place in July and August in Lincoln Park. Academy members get discounts on fees. For a brochure and registration form, call (773) 549-0606, ext. 2034.

Science for Families Workshops
Looking for a great activity for the whole family? Join us for our family workshops at the Academy's 2060 N. Clark St. administrative offices. Explore science and learn together! Fee per person: $9 Academy members, $13 non-members. Fee per family: $25 Academy members, $34 non-members. (Families of four qualify for a group discount.) Pre-registration is required and is determined on a first-come, first-served basis. For information and a current schedule, please call (773) 549-0606, ext. 3050.

Science for Teachers Workshops
Attention teachers! Are you looking for new ways to make science exciting in your classroom? The Academy sponsors professional development workshops for teachers throughout the year. These workshops are designed to make science fun for your and your students! For information and a current schedule, please call (773) 549-0606, ext. 3067.

New Science

A series of lectures of current scientific developments that will shape life in the 21st century. Sponsored by the International Center for the Advancement of Scientific Literacy of the Chicago Academy of Sciences, these lectures will provide an opportunity to share the excitement of scientists who are doing cutting-edge work in their fields. You can take a peek at the 21st century on five Tuesday nights this spring, or you can read about it in the Tribune early in the next century. It's your choice.

February 10, 1998: Energy for the 21st Century

Dr. Joseph Kilkenny, Director of the Inertial Confinement Fusion Program at the Lawrence Livermore National Laboratory, will discuss the development of the new National Ignition Facility, which will provide the tool that scientists need to understand the process of thermonuclear ignition and to begin to adapt it for possible use in the generation of electric power in the 21st century.

March 10, 1998: Exploring the Life of a Cell through Modern Microscopy

Dr. Robert Goldman, Chair of the Department of Cell and Molecular Biology at the Northwestern University Medical School, will talk about the extraordinary insights into cell function gained in recent years through the use of molecular and biochemical methods. He will demonstrate the use of luminosity genes to monitor the operation of a cell and the effect of pharmaceutical interventions.

April 21, 1998: The Transgenic Banana

Dr. Charles Arntzen, the President and CEO of the Boyce Thompson Center for Plant Research, Ithaca, New York, will describe the isolation of a gene responsible for millions of childhood deaths in third world countries and the introduction of that gene into a banana plant, producing a low-cost and effective medication that will save millions of children throughout the world.

May 12, 1998: New Horizons in Gene Therapy for Parkinson's Disease

Dr. Martha Bohn, Professor of Pediatric Neurobiology at the Northwestern University Medical School, will discuss her current research on the use of gene therapy to treat Parkinson's disease. Although the genetic sources of Parkinson's disease have been known for several years, Professor Bohn's work is bringing this knowledge into clinical practice.

June 16, 1998: The Launch of the Space Station

A senior scientist from NASA's Space Station Program will talk about the scientific research planned for the new space station. The first major component of the space station is scheduled for launch in July, 1998.

All of the lectures will be held in the Lake Michigan Room of the University Club of Chicago, 76 East Monroe Street, Chicago. Registration will begin at 5 p.m. and a cash bar will be available from 5 to 6 p.m. Each lecture will begin at 6 p.m. and the formal meeting will be adjourned at 7:30 p.m. Each lecturer has agreed to take questions from the audience.

MEMORANDUM

To: Paul Heltne

From: Jon Miller

Date: January 26, 1998

Subject: Annual Report for Calendar 1997

During 1997, the International Center continued to work on its presently funded research projects and to seek additional support for new research and dissemination projects appropriate to our mission. Let me outline briefly the current status of each of our major projects and discuss some of the directions and projects for which I am currently seeking additional support.

Status of Current Programs and Projects

During, 1997, the International Center was responsible for the continuing analysis of the Longitudinal Study of American Youth, the design and conduct of the 1997 Science and Engineering Indicators study, the design and conduct of the 1997 Biotechnology Understanding and Attitude Study, the provision of technical assistance to the National Aeronautics and Space Administration, the organization and hosting of an International Conference, and the development of a metropolitan area lecture series. It may be useful to summarize each of these activities separately.

Analysis of Longitudinal Study of American Youth

The National Science Foundation is supporting the continuing analysis of the data from the Longitudinal Study of American Youth (LSAY). We have been working on this data set for several years, producing a series of articles and papers. Within the next 12 months, we will complete three new books on (1) the development of scientific literacy, (2) the development of quantitative literacy and mathematics skills, and (3) the development of student interest in careers involving science, mathematics, and engineering. Approximately a year ago, we became aware of some minor problems in our estimation procedures for the student achievement scores in science and mathematics, and we engaged Dr. Michele Zimowski from the National Opinion Research Center at the University of Chicago to consult with us on a re-estimation of these scores. Fortunately, Dr. Zimowski is the senior author of the software used world-wide for test scoring, and she was able to provide very useful assistance. As a result of this re-estimation process, we are about six to eight months behind our original schedule, but we have conserved sufficient funds to complete the work, and I will shortly ask NSF for an extension of the period of the grant to allow us to use the remaining funds to complete this work.

We will also prepare a CD-ROM that will include all seven years of LSAY data and documentation, making this resource available to scholars throughout the world. We have opened an LSAY Web site to provide for the collection of publications and the sharing of analytic methods among the present users of this data set.

Science and Engineering Indicators

The International Center completed work in December on the NSF 1997 Science and Engineering Indicators Study, continuing our time series from its inception in 1979. The data from the 1997 study have been used to write a chapter for *Science and Engineering Indicators – 1998*, which President Clinton will send to the Congress in late February or early March. We are still making minor editorial adjustments (footnotes, references, etc.) in response to NSF editors, but expect the 1998 report to go to print within the next week.

This project also supports the development of a CD-ROM which will include data from the U.S. since 1979 and more recent data from approximately 20 other countries. Work is continuing of this part of the project, and we expect to release the CD-ROM in the summer. There is some translation work remaining on some of the Chinese data sets, and all of the Chinese data sets need to be weighted. We expect our Chinese colleagues will complete the weighting within the next month, allowing us to move toward the completion of that portion of the CD-ROM.

Evaluation of NASA's Education Programs

Under our cooperative agreement with NASA, we continue to monitor the use of the NASA Spacelink web site and to evaluate selected education programs. During 1997, we designed an evaluation system for use of the Spacelink web site, initiated a program to collect pilot data from Spacelink visitors, and have made revisions in the original design and questionnaires on the basis of the pilot data. The process of randomly selecting visitors to a web site is complex since only a portion of the visitors enter through the home page, with many repeat visitors having bookmarked specific pages within the web site. We have been able to combine our experience in the design of national sample surveys with our understanding of the web to construct a sampling design and data collection program that provides an accurate profile of visitors to a web site. We expect to initiate a full program of data collection in early 1998 and to use this experience to become the evaluators for other federal and corporate web sites.

In addition to our Spacelink evaluation, the International Center has been asked to evaluate two additional NASA education programs: the Graduate Student Research Program (GSRP) and the Summer High School Apprenticeship Research Program (SHARP). The GSRP program provides up to three years of graduate support for students in space science and related engineering programs. We have been working with NASA staff to build a complete listing of program recipients since the start of the program in 1983. Working from this population of participants, we will locate a stratified sample of the participants and collect information about their academic and professional achievements, including their contributions to the space sciences and to NASA's programs. The SHARP program provides a summer research experience to minority high school students. In early 1998, we will construct a list of previous participants and then select a sample from which to obtain information about subsequent educational and career experiences.

International Study of Public Perceptions of Biotechnology

In October, the National Science Foundation provided $99,000 to support the design and conduct of a national study of the public understanding of and attitudes toward biotechnology in the United States. This study, which is still in the field, includes a core of questions used last year in a European Union study of its 15 member countries, plus Norway and Switzerland. A parallel study was also conducted in Canada last year, increasing the number of comparable national data sets to 19. The new biotechnology study also updates several items that were used in our 1993 national study of the public understanding of the biomedical sciences.

It should also be noted that this study marks the first use in a major academic study of the new MMX Wave technology to capture open-ended responses verbatim. In the past, when an interviewer asked a respondent to explain the meaning of a term like DNA, or to give his or her reasons for a particular attitude, the interviewer had to try to either type the response into a computer as the respondent was speaking, or to write it down in the case of personal interviews. Now, using the new MMX technology built into virtually all new computer chips, the interviewer can ask the respondent for permission to "have my computer record your answer to this question" and then capture the exact answer in a digital format that is better than a tape recording. These verbal responses are saved on a set of CD-ROM's and college students are employed to listen to the answers and convert the responses into codes that categorize the answer. Undoubtedly, this will become the standard for all telephone interviewing in the next few years, but we have been able to work with Market Facts to be the first to bring this new technology into a major academic study.

I have been representing the United States on the International Biotechnology Study Committee. We expect to complete the interviewing by the end of January. We will contribute at least one chapter to a joint book to be published by the Cambridge University Press, and expect to publish several articles and a separate book on the cross-national comparisons.

1997 International Conference

In early October, the International Center hosted the 1997 International Conference on the Public Understanding of Science and Technology. Approximately 100 scholars and communicators from 20 countries gathered to present the results of studies concerning the public understanding of science and technology and to explore the issues and opportunities for future activities in this area. The International Conference was organized around the 40th anniversary of the launch of Sputnik I and was underwritten by NASA. Approximately 70 papers were presented over the three days of the conference, and we are currently working with the Harvard University Press to publish at least two volumes of collected papers (one on 40 years of space exploration and a second on biotechnology). We would like to publish a third cross-cutting set of papers on how the experience of technology influences public attitudes toward science.

Science Education Lectures

The International Center sponsored a series of six lectures concerning ***Scientific Literacy for the 21st Century***. Beginning with an initial lecture by Jim Trefil in November of 1996, five additional lectures were sponsored in the winter and spring of 1997:

David Micklos, the Director of Education at Cold Spring Harbor Laboratory, lectured in Janaury on what every high school graduate should know about DNA.

Yu Shaozhong, Consul of the Education Office of the China Consulate in Chicago, lectured in February on the status of science education in China.

Samuel Silverstein, the John C. Dalton Professor of Physiology at the Columbia University of physicians and Surgeons, lectured in March on what every high school graduate should know about the medical sciences.

Alan Schriesheim, Director Emeritus of Argonne National Laboratory, lectured in April on what every high school graduate should know about energy.

Gerald Wheeler, the Executive Director of the National Science Teachers Association, lectured in May concerning what every high school graduate should know about the nature of scientific inquiry.

Each of the 1997 lectures was held in the Lake Michigan Room of the University Club of Chicago. Some of the presentations will be published as a part of other collections from the 1997 International Conference, but the set of lectures will not be published as an independent collection.

Staff Publications and Papers

During 1997, the staff of the International Center has published the following books, chapters, articles, and papers:

Kimmel, Linda. Gender Differences in Young Adults' Attitudes Toward Science and Technology. A paper presented at the annual meeting of the Midwest Political Science Association, Chicago, Illinois. April, 1997.

Kimmel, Linda. Public Attitudes about the Use of Animals in Scientific Research A paper presented at the Scientists' Center for Animal Welfare Conference on Hot Topics in Animal Research, San Antonio, Texas. December, 1997.

Miller, Jon D. Civic Scientific Literacy in the United States: A Developmental Analysis from Middle-school through Adulthood, in Gräber, Wolfgang and Claus Bolte (Eds.), ***Scientific Literacy***. Kiel: Germany: Institute for Science Education, University of Kiel, 1997.

Miller, Jon D. The Education of 21st Century Citizens: Crossing the Bridge to Participation. A paper presented to the annual meeting of the Social Science Education Consortium, Asilomar, California, June 7, 1997.

Miller, Jon D. ; Rafael Pardo; Fujio Niwa. ***Public Perceptions of Science and Technology: A Comparative Study of the European Union, the United States, Japan, and Canada.*** Madrid: BBV Foundation, 1997.

Future Directions for the International Center

Looking to the future, I want to expand our research in the public understanding of science and technology, continuing our present national survey work and initiating new experimental and targeted interventions designed to enhance the level of understanding of selected scientific constructs. The International Center will continue to analyze the data from the LSAY, but not immediately propose the initiation of a new cycle of youth data collection. We would continue our Archive program and seek to expand our advanced analysis training programs.

The Measurement Program

We need to continue our basic work in measuring and reporting on the level of public understanding of science and technology in the United States. Our current contract with the NSF for this series of studies expired with the completion of the 1997 study. My program officer at NSF has initiated discussion of a continuation contract or

grant for the 1999 study. I have asked that we explore the possibility of moving from a contract format to a grant format, which would allow us to ask questions about issues like religious beliefs and political activities, which are largely forbidden topics under formal government contracts. In a grant arrangement, the responsibility for the content of a survey or study belongs to the grantee, not the government. Many of the NSF science indicators studies over the last two decades were funded by grants, but the last three were covered by one contract. In any case, it appears that the NSF staff would like for us to continue to do this work, and I would expect that we can arrive at some new funding arrangement by June.

The recent grant award for the initiation of the United States portion of the international biotechnology study provided funds for the basic data collection, but not for an extended analysis. I had hoped to obtain additional NSF funding for the analysis portion, but we were not funded by the Science and Values program. I will initiate some new discussions with the National Institutes of Health, the Howard Hughes Medical Institute, and some potential corporate sources this spring and would expect to be able to obtain sufficient funds to support the preparation of a book comparing the results of the U.S. study, the Canadian study, and the 17 countries in Europe that have collected comparable data.

We may expand our measurement work to include a periodic national study of the public understanding of social science constructs, especially those dealing with human behavior, mental health, and the role of genetics and gene therapy. A member of the staff of the NIH Director visited me recently to explore the International Center's interest in expanding into this area, and I indicated that I would like to undertake new work in this area. I will meet with the NIH Behavioral Sciences staff in early February to continue this discussion.

A Communications Research Program

Presently, I am completing a book (with Linda Kimmel) on ***Biomedical Communications*** that will be published by Academic Press this spring or summer. This book is a major extension and expansion of the handbook on biomedical communications that we wrote for the National Cancer Institute last year and marks our entrance into a related, but new, field. Increasingly, corporations, universities, research institutions, and government agencies are engaged in trying to convey new scientific ideas to the public. Unfortunately, the communications staff often misunderstand the existing distribution of scientific literacy and try to use one message to reach all segments of the public. While our new ***Biomedical Communications*** book will provide both a theoretical framework and some practical strategies for biomedical communicators, it is already clear that there is a large unmet need for similar studies and materials in other scientific areas. The largely ineffective efforts of American physicists to explain the purpose of a superconducting super collider and the recent muddled communications concerning the issues involved in the global warming treaty are two good examples of the need for more research and for some experimentation in scientific communications. I plan to seek support for an expanded program in this area.

In this same general area, I think that the opening of the new Nature Museum will provide an excellent opportunity to initiate a long-term study of informal science learning in a major metropolitan area. As you know, I have had some exploratory conversations with John Falk about a parallel study in Los Angeles, and we would like to find one additional museum in the northeast and one museum in the south. It would also be possible to build cross-national studies to include the new Science Museum in London, the expanded Ueno Park science museum in Tokyo, and perhaps the Cité de Science in Paris. Regardless of the funding for national or international comparative studies, I think that it is imperative that we initiate a metropolitan Chicago study in 1998 to provide a solid baseline against which to compare subsequent data reflecting the new Nature Museum. I will provide you with a preliminary proposal in February and hope that we can initiate discussions with other informal science education institutions this spring.

Archive Development

Due to the pressure of other business, we have not worked as vigorously on the expansion of the Archive of the International Center as we should have, but we are resolved to expand our collection and services in 1998. During 1998, we will complete two major CD-ROM's that will comprise the largest collection of student and adult understanding of science, mathematics, and technology data ever collected or released. I plan to use these two releases and an expanded Web site to increase the use of these data resources and the visibility of the International Center.

LOWELL L STAHL

Professional Career - Comprehensive List

Lake Federal Savings & Loan, Chicago, IL; Board Chairman since 1991, Member, Board of Directors since 1978
Century 21 Real Estate Corporation of Northern Illinois
President/CEO/Director, since 1973-1996
Schmitt & Company, Realtors, Chicago, IL; Owner/President, 1958-1976
Arlington Construction Company, Arlington Heights, IL; Partner since 1988
Dial One Central States, Inc., President/Regional Director, 1983-87
Dial One International, Long Beach, CA; Member, Board of Directors, 1985-1986
Horizon Insurance Agency, President, 1980-86
Financial Express Service Corp., President/Owner since 1982
LISCO Enterprises, President since 1979
L&M Management, Partner since 1970
Chicago Mutual Plate Glass, Director, 1967-1969

Professional Affiliations

Chicago Board of Realtors
Chairman, Board of Governors, Brokerage Division, 1973-1974
Board Secretary, 1970
Member, Board of Directors, 1967, 1968, 1969

North Side Real Estate Board
President, 1969
Vice President, 1968
Treasurer, 1967
Chairman, Multiple Listing Service, 1964-1966
Chairman numerous committees

Illinois Association of Realtors
Chairman, Real Estate Political Education Committee, 1975
Trustee, Real Estate Political Education Committee, 1974
District Vice President, 1974

National Association of Realtors, member since 1960
Northwest Suburban Board of Realtors, member since 1975

Other Affiliations

Easter Seal Society of Metropolitan Chicago
President, Board of Directors since 1985 - Chairman Emeritus
St. Patrick High School, Chicago, IL
Chairman & Member, Board of Trustees since 1986
American Management Association
The Presidents Association (AMA)
The Economic Club of Chicago
The Edward Frederick Sorin Society, University of Notre Dame
Executives' Club of Chicago
Lions International, North Center (Chicago) Club, President 1968
Mid-America Club
Ridgemoor Country Club
Variety Club
Franchise Advisory Board Member, State of Illinois, 1991-1994

Chicago Academy of Sciences

Office Address: 2060 North Clark Street, Chicago, Illinois 60614, Phone (773) 549-0606, Fax (773) 549-5199

January 13, 1998

TO: Education and Exhibits Committee - Lew Crampton, William Elliot, Judy Istock, Rick Maier, Deborah Reguera, David Voss, Paul Heltne, Colin Silvester, Kevin Coffee

FR: Alicia Pond

There will be a meeting of the Education and Exhibits Committee on Wednesday, January 21, 1998 at 8:30am at the 2060 Building.

Please RSVP to Bettie Leslie at FAX 773-549-5199, by phone at 773-549-0606 x 2013 or by e-mail at bleslie@chias.org.

Thank you for your time and participation.

From:_____

Yes I will attend ____

No I cannot attend ____

Chicago Academy of Sciences

Office Address: 2060 North Clark Street, Chicago, Illinois 60614, Phone (773) 549-0606, Fax (773) 549-5199

Chicago Academy of Sciences
Education and Exhibits Committee

Meeting to be held at 2060 N. Clark St.
Second Floor Library

January 21, at 8:30 am

Agenda

1. Introduction

2. Presentation of Academy educational programs - Phil Parfitt

3. Update on exhibit development/design - Kevin Coffee
   - •exhibit script drafts completed
   - •LHSA+DP to complete detailed drawings January 30
   - •exhibit final copy to commence January 20

4. Update on electronic media development/design - Kevin Coffee
   - •Butterfly software exhibit in progress
   - •Film/video production to commence in February

5. Temporary exhibits in the new museum - Colin Silvester
   - •(general discussion)

6. Exhibit budget status - Colin Silvester
   - •Exhibit contracts signed

Paul Beltne
Colin Silvester
Phil Parfitt
Kevin Coffee

Chicago Academy of Sciences

Office Address: 2060 North Clark Street, Chicago, Illinois 60614, Phone (773) 549 0606, Fax (773) 549 5

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Kevin
Please let me know if ok to distribute
BY

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CHICAGO ACADEMY OF SCIENCES
EDUCATION AND EXHIBITS COMMITTEE

Contracts Awarded

Exhibits

		8000
Informal Science	master plan	<192>
Skolnick	design	<1176>
O'Malley	graphic co-ordination	<70>
Wild Sanctuary	audio	<256>
Carol Naughton	graphic design	<276>
Available Light	lighting	<70>
Cost of Wisconsin	water feature	<23>
McAlpin Communication	butterfly software	<75>
Internal personnel		<140>
Miscellaneous		<15>
	Balance available	5707

Major contract open

Design Craftsmen 3700

January 26, 1998

Exhibition Status Report

1. **Butterfly Haven**

2. The 2700 sq. ft atrium space, enclosed by glass on its south and western sides, rises to a glass ceiling 28 feet above the floor. The Haven will be home to various species of Midwestern butterflies and moths year-round and 500 butterflies will be released into the atrium every week. Staff scientists will raise butterflies from eggs in the working laboratory attached to the atrium and on view to visitors. The atrium will be planted with live plants and trees, to provide a contemplative space for visitors and to provide the caterpillars and butterflies with a habitat in which they can live and reproduce. The 1200 sq. ft. of interpretive exhibts adjacent to the atrium will show the life-cyles, migration and behavior of these animals, and will include a visual database of scores of species native to the middle-western region of North America.

3. The goals of the Butterfly Haven exhibition are to feature native midwestern species in order to show butterfly biology, show complex interrelationships among plants and animals, encourage visitors to notice and appreciate butterflies, show how butterflies and moths interact with their habitat, and provide a peaceful space for contemplation of natural phenomena.

The story for this exhibition is completed. The 3-D design of the Haven and of the interpretive exhibit gallery is completed.

The CAS developers for this exhibit are Paul Heltne and Doug Taron. Frank Elia has also been involved in advising the Academy to date. Other specialists are being contacted for advice on specific topics. Ron Panzer is participating in the Exhibit Science Advisory Committee for the Academy.

4. Cost estimate for all consultants and outside services: $ 915,858

5. Size = 3910 sq. ft.

6. Exhibit script development is complete. Final interpretive copy is scheduled to be completed by 3/98. Graphic design will begin in April 1998. Fabrication of exhibits and interpretive graphics is anticipated to begin in April 1998.

Care and breeding operations are a significant ongoing responsibility and will require planning and implementation approximately 6 months prior to opening this exhibition area. These operation costs are not included here.

January 26, 1998

Exhibition Status Report

1. **Water Lab**

2. This space deciphers some of the complex processes at work in the water systems that surround Chicago. While all of the animals in the region depend upon these water resources, we are the species that makes the largest impact on the environment.

Water Lab enables visitors to investigate how the local river system works, the human impact on the river, and the ecological dependencies that the river supports. This exhibit also provides information to help visitors make intelligent choices about water resource management - as consumers and as citizens.

A model of a river - much like the Chicago River - enages visitors in three-dimensional explanations of how the river works. Aquaria and terraria show a variety of aquatic animals and plants native to the area, and also explain the problem of 'exotic' species inadvertantly introduced into the local habitat.

The water lab area allows visitors to conduct real experiments - examining water from North Pond, testing water samples for minerals or micro-organisms, and exploring the molecular or other physical properties of water in bench-top experiments.

A reading and information resource area offers visitors access to periodicals, videotapes or computerized information resources and enables them to delve deeper into the issues of water, ecology and the environment.

3. The goals of the Water Lab are to increase audience awareness of water-related environmental issues and the fragile nature of water resources with a special focus on the Great Lakes and Chicago River systems, to demonstrate the human impact on other systems, to suggest individual and local activities that would preserve water resources, to provide a learning environment that serves a range of museum audiences - casual to sophisticated.

The story for this exhibition is complete, and draft scripts have been completed for the individual exhibit modules. The 3-D design of the exhibits is mainly completed, graphic design of interpretive displays is about to begin.

The CAS developer for this exhibition is Ken Rose. Karol Bartlett and Don Hey have also reviewed the script and offered advice. Bartlett and Hey participate in the Exhibit Science Advisory Committee of the Academy.

4. Cost estimate for all consultants and outside services: $795,350

5. Size = 2220 sq. ft.

6. Exhibit script development is complete. Script editing and final copy is underway. Graphic design will begin in February 1998. Fabrication of exhibits and interpretive graphics is anticipated to begin in April 1998.

Januray 26, 1998

Exhibition Status Report

1. **City Science**

2. City Science is a walk-though bungalow in the middle of the new Museum.

Entering from the first floor, visitors find themselves in the basement of the house - where small mammals and various insects live, where the laundry is done, where the furnace is running, where water pipes bring fresh water in and drain pipes flush sewage out of the home.

Push a button by the electric meter and find out how electricity is supplied to the washing machine; look at the pile of junk under the stairs and discover a mouse's nest or a spider's web; walk around the corner into a 'rec room' and use one of the computers to learn more about the interface between our homes and our environment.

Visitors who come in off the second floor of the Museum find themselves in the living room of a somewhat off-center residence - the TV set is showing an interview with a cockroach! Walk into the bathroom and the lights go out - to reveal the secret locations of fungus, mildew, bacteria and other microorganisms that co-habitate here.

In the kitchen, CAS staff demonstrate kitchen chemistry in live shows several times each day. This area is also used for self-guided experimental activities - like looking at mold under a microscope or watching yeast grow.

3. This exhibition reveals that: a.) the human dwelling is a node in an expansive web of systems that, in themselves, have larger environmental impact; and b.) the human dwelling is also a habitat for a variety of other species of animals and plants.

The exhibit explains a variety of phenomena based on visual opportunites in the house recreation (e.g. kitchen, bathroom, basement). An educational-programming component is planned for a kitchen area on the second floor of the house.

Draft scripts have been completed for individual exhibit modules. The 3-D design of the house and of the interpretive exhibits is mainly completed.

The CASdevelopers for this exhibit are Kevin Coffee, Douglas Taron, with Kaye Hood, Alice Kappes, Sheila McCaskill, Karen Randall, Mary Riggs, Sean Shaffer, and Liz Thompson. James Trefil advised on content issues.

4. Cost estimate for all consultants and outside services: $1,297,745

5. Size = 2850 sq. ft.

6. Exhibit script development is complete. Exhibit design drawings will be completed by 2/6/98. Final interpretive copy and graphic design are underway. Production of exhibits and interpretive graphics is anticipated to begin in April 1998.

January 26, 1998

Exhibition Status Report

1. **Wilderness Walk**

2. Walk-through dioramas recreate the prarie, woodland and lakeshore habitats that once characterized this region, and combine specimens and information from the Academy's collection with the latest theatrical techniques of light and sound. Beyond the dioramas, Wilderness Walk also presents the entire North Pond on the other side of the 50' bay window that forms part of the west side of the exhibition space. The North Pond will be interpreted as a living museum exhibit with illustrations and text explaining this real ecosystem.

Experimental stations throughout the exhibition space are lab-like tables for visitor experimentation and discovery of the plants, animals and natural phenomenon that live or lived in the prairies, forests and along the inland waterways of this area - now and in the pre-industrial era.

3. Wilderness Walk is envisioned to include two zones of experience - dioramic presentations about habitat and ecological succession, surrounded by 'experimental stations" that provide demonstrations of various phenomena related to ecology, biology, and biodiversity.

The planning objectives include that the exhibition combine living and dead organisms; demonstrate how ecosystems function and how these functions serve to preserve or restore that system; illustrate the concept of habitat restoration; provide a powerful aesthetic experience; to broaden an understanding of habitats; to present plant-animal interactions; to present the status of biodiversity in the local area; to indicate how human intervention may help preserve ecosystems. The dioramas will include specimens from the CAS collections and will be programmed with location-recorded sound.

Front-end evaluation in the form of focus group studies, will be used to help identify the thematic content of the experimental stations. The dioramic presentations will be a prairie, a savanna and a coastal/inter-dunal transition area.

The CAS content developer for this exhibit is Doug Taron. Content advice for this exhibition has been given by Donald Hey. Hey and William Jordan are part of the Exhibit Science Advisory Committee for the Academy.

4. Cost estimate for all consultants and outside services: $1,240,417

5. Size = 5280 sq. ft.

6. Script development is approximately 80% complete. Muralists for diorama backgrounds are being reviewed. Final copy and interpretive graphic design for dioramas and experimental stations begins in Spring 1998. Production of exhibits and interpretive materials is anticipated to begin in April 1998.

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January 26, 1998

Exhibition Status Report

1. **North Pond & Outdoor Gardens**

2. This once-neglected back lot to park maintenance sheds is being turned into a series of landscaped gardens that replicate the floral variety found in several important ecological zones including prairie, woodlands, and the intermediate zone between the two. The pond edge is being carefully replanted. An outdoor 'butterfly garden' to complement the indoor Butterfly Haven will be landscaped near the south end of the Pond.

Pathways through the landscaped grounds include interpretive displays that explain the importance of each of these habitats. Smaller, temporary graphic displays will call out special or transient events unfolding that week (flowering plants, nesting birds, etc.)

3. The goals of CAS interpretation in and around the North Pond are to excite visitors with the beauty and diversity of nature, to encourage exploration of phenomena around the pond, to explain the natural history of the site, to draw visitors into the building, to explain restoration efforts concerning the pond, and related topics.

The story for this exhibition is complete in outline form. The amount of interpretive material throughout the park is not large - consisting of seven fixed-in-place graphic displays and a variable number of temporary plaques throughout the grounds. Copy remains to be written. The 3-D design of the displays is underway.

The CAS developer for this area is Doug Taron with Mary Hennen, Ken Rose and Katherine Weber. William Jordan is participating in the Exhibit Science Advisory Committee for the Academy.

4. Cost estimate for all consultants and outside services: $378,800

5. Size = approx. 5 acres

6. Interpretive text and graphics is under development. Graphic design is anticipated to begin in April 1998. Fabrication of displays is anticipated to begin in April 1998.

January 26, 1998

Exhibition Status Report

1. **Children's Gallery**

2. The Children's space provides a giant crawl-through 'beaver lodge', complete with soft-sculpture cattails, river grasses and tree branches. A second crawl-through depicts the prairie underground, complete with burrowing animals and exposed root systems. Murals along the walls and mobiles overhead depict prairie and riverine habitats and show a flock of migratory birds moving through the gallery. A new 'fishing' game, modeled after the one now at North Pier, will provide a fun way to learn about native fish species.

The space also includes a 'family bathroom' so that parents can attend to urgent requests in a timely manner.

3. The goals of this exhibit area are to present exhibits appropriate to the 3-8 year-old audience, to integrate subject matter found elsewhere in the Museum, to provide hands-on activities that facilitate learning and to promote shared experiences and interaction between adults and their children.

Specific descriptions have been written for the individual exhibit modules. Work is underway to identify interpretive photographs or illustrations. The 3-D design of the exhibits is mainly completed.

The CAS developers for this exhibit are Laura Selicaro, Jill Koski and Amy Joyce. Karol Bartlett is advising on content issues and is participating in the Exhibit Science Advisory Committee for the Academy.

4. Cost estimate for all consultants and outside services: $661,750

5. Size = 1340 sq. ft.

6. Exhibit script development is complete. Final text and graphic design will begin in April 1998. Fabrication of exhibits and interpretive graphics is anticipated to begin in April 1998.

Januray 26, 1998

Exhibition Status Report

1. **Entrance & Lobby**

2. The new Museum will announce its presence through the design of the building, set among a series of landscaped gradens. As visitors approach from the southeast corner, they will first be greeted by a monumental site-specific sculptured seating area that announces the name of the institution and provides a meeting place for museum visitors and park-goers.

Drawn up the walk toward the museum, visitors will encounter a series of other large sculptural elements that indicate, conceptually and aesthetically, that the dramatic building rising ahead has a very specific mission. A precisely finished wall of glass cuts into a hillock; incised lettering announces that this wall sits at the edge of the ancient Lake Michigan. A patchwork of stone slabs reveals rock types from the region. Several erratically-placed boulders reprise important quotations from naturalists and scientists on polished, flat faces.

Moving through the main entrance to the building, visitors are greeted by the sound of native birds punctuated by the calls of a variety of terrestrial animals. To the left, a bank of video monitors provide 'live-remote' views into activities along the edge of the North Pond, in the tree-tops just east of the Museum, and in the Butterfly Haven within the building.

Visitors are drawn past the pool in the lobby by the sound of the water walls that form the entrance to the Water Lab and into the exhibition spaces beyond.

3. The goal of exhibit design for the entrance walk and the lobby is to excite visitors with the beauty of nature and of this site, to provide a public space that will serve as a gathering place, and to draw visitors into the building.

The CAS developer for this area is Kevin Coffee with Mary Hennen, Ken Rose and Katherine Weber. William Jordan is participating in the Exhibit Science Advisory Committee for the Academy.

4. Cost estimate for all consultants and outside services: $318,758

5. Size = approx. 1 acre outside plus 2500 sq ft inside.

6. LHSA+DP has proposed several sculptural elements for the walkway up to the building. Four of these designs have been accepted and are part of the exhibit fabrication scope which is anticipated to begin in April 1998. A sound piece is being designed for the lobby area and will includ location-recorded audio as well as live-remote audio recorded through microphones placed outside the building.

Januray 26, 1998

Exhibition Status Report

1. **Environmental Central**

2. How would you manage the natural resources of the Great Lakes basin? What if you could make a decision that would save a species from extinction? What if you had to decide who got to drink from Lake Michigan who didn't?

The tough decisions will be made every day in Environmental Central – via sophisticated computer programming that will present hypothetical situations and challenge visitors to examine and resolve difficult issues in contemporary resource management, ecology and environmental science. Using mathematical modeling software, these decisions will be mapped into the future and visitors will see the long-term results of their decisions.

Visitors will participate in a forum equipped with the latest mini-computers and network hardware and engage in problem-solving simulations based on very probable environmental concerns and conditions.

The simulations will be layered on top of information presented through an interactive, multimedia database maintained within the museum as well as information resources maintained by other organizations and accessed via the Internet.

3. The goal of this exhibit area is to provide visitors with a window into the future, through a combination of role-playing, group dynamics, and high-tech communications. It is intended that audiences experience the complexity of environmental issues and issue resolution. Using sophisticated modeling programs, visitors will see the impacts of their choices on the environment in the years ahead.

Draft storylines have been prepared for two simulations, centering on water resource management. Development/production proposals from two firms are currently under consideration .

Story-boards for the game presentation, background information and images, and other real data for the simulation are yet to be developed. No software programming has been contracted to date but a significant amount of high-level programming will be required, including the user interface that unites the four separate software programs that comprise the simulation experience.

The CAS developers for this area are Doug Widener, Phil Parfitt and Kevin Coffee.

4. Cost estimate for all consultants and outside services: $1,575,682

5. Size = 3590 sq. ft.

6. We are engaged in discussions with software/media development firms regarding development, design and production. The physical space of the area has been designed. Software development and video production is expected to begin in February 1998.